

## Cancer of Unknown Primary Origin

Cancer can begin in any organ or tissue of the body and is usually named for the part of the body or the type of tissue in which it begins (also called the primary, or original, cancer site). Cancer can spread (metastasize) from the primary tumor and form secondary (metastatic) tumors in other parts of the body. For example, breast cancer cells may metastasize to the lungs and cause the growth of a new tumor. When this happens, the disease is called metastatic breast cancer. It is important to note that the cancer is still breast cancer because the tumor is composed of breast cancer cells, not lung cancer cells.

Sometimes, patients are diagnosed with metastatic cancer, but the primary cancer site is not known. Even when doctors look at the cancer cells under a microscope, the part of the body the cancer cells came from cannot be determined. When doctors cannot determine the location of the primary cancer site, they call the disease cancer of unknown primary origin (CUP). About 2 to 4 percent of all cancer patients have CUP.

CUP is usually found first in the lymph nodes, liver, lung, or bone. In patients in whom the primary cancer is eventually found, the lung and pancreas are the most common primary cancer sites. Other common primary sites are the breast, prostate, colon, or rectum. Doctors try to identify the primary tumor site because knowing its location and type may be important in

planning treatment. Treatment that is specific to the suspected type of cancer is likely to be more effective. Sometimes, commonly used diagnostic tests and exams cannot locate the primary cancer site because the tumor is too small to be detected or is difficult to feel or to see, even with x-rays or other tests. Doctors must decide whether the potential benefits of more extensive testing outweigh a patient's discomfort and the financial costs.

The pattern of spread of CUP sometimes provides clues about the location of the primary site. When the metastatic cancer is found in the upper part of the body, the original site is likely to be above the diaphragm (the thin muscle under the lungs that helps the breathing process) at sites such as the lung and breast. If the metastatic cancer appears first in the lower part of the body, the primary cancer is likely to be at sites below the diaphragm, such as the pancreas and liver.

The type of cell found in the metastatic cancer can also provide clues about the hidden primary site. Most patients with an unidentified primary tumor have a cell type called adenocarcinoma. The term adenocarcinoma refers to cancer that begins in the cells from glandular structures in the lining or covering of certain organs in the body. Common primary sites for adenocarcinomas include the lung, pancreas, breast, prostate, stomach, liver, and colon. When the cancer cells are poorly differentiated (that is, they look very different from normal cells when viewed under a microscope), the cancer may be either a lymphoma or a germ cell tumor. Lymphomas begin in the lymphatic system; germ cell tumors usually begin in the ovaries and testes.

Because CUP is a term that refers to many different cancers, there is no one standard method of treatment. Treatment depends on where the cancer is found, what the cancer cells look like under a microscope, and the patient's age and overall physical condition.

Chemotherapy, radiation therapy, hormone therapy, and surgery are used alone or in combination to treat patients who have CUP. Even when the cancer is unlikely to be cured, treatment may help the patient live longer or improve the patient's quality of life. However, the potential side effects of the treatment must be considered along with the potential benefits.

The National Cancer Institute is currently supporting clinical trials (research studies) of new treatments for CUP. Information about ongoing studies is available on the NCI's cancerTrials™ Web site at <http://cancertrials.nci.nih.gov> on the Internet or from the Cancer Information Service (see below).

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### **Sources of National Cancer Institute Information**

#### **Cancer Information Service**

Toll-free: 1-800-4-CANCER (1-800-422-6237)

TTY (for deaf and hard of hearing callers): 1-800-332-8615

#### **NCI Online**

##### ***Internet***

Use <http://www.cancer.gov> to reach NCI's Web site.

##### ***CancerMail Service***

To obtain a contents list, send e-mail to [cancermail@icicc.nci.nih.gov](mailto:cancermail@icicc.nci.nih.gov) with the word "help" in the body of the message.

#### **CancerFax® fax on demand service**

Dial 301-402-5874 and listen to recorded instructions.

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